

WEST Search History

[Hide Items](#) [Restore](#) [Clear](#) [Cancel](#)

DATE: Thursday, February 08, 2007

Hide? Set Name Query Hit Count

DB=USPT; PLUR=YES; OP=OR

| | | | |
|--------------------------|----|--------------------|------|
| <input type="checkbox"/> | L6 | '5370995'.pn. | 1 |
| <input type="checkbox"/> | L5 | Amber AND L4 | 11 |
| <input type="checkbox"/> | L4 | Escherichia AND L3 | 45 |
| <input type="checkbox"/> | L3 | Orthogonal AND L2 | 52 |
| <input type="checkbox"/> | L2 | L1 AND bacillus | 2531 |
| <input type="checkbox"/> | L1 | (tyrosyl tRNA) | 9029 |

END OF SEARCH HISTORY

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1652KHG

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * Welcome to STN International * * * * * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 OCT 23 The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded
NEWS 4 OCT 30 CHEMLIST enhanced with new search and display field
NEWS 5 NOV 03 JAPIO enhanced with IPC 8 features and functionality
NEWS 6 NOV 10 CA/CAplus F-Term thesaurus enhanced
NEWS 7 NOV 10 STN Express with Discover! free maintenance release Version 8.01c now available
NEWS 8 NOV 20 CA/CAplus to MARPAT accession number crossover limit increased to 50,000
NEWS 9 DEC 01 CAS REGISTRY updated with new ambiguity codes
NEWS 10 DEC 11 CAS REGISTRY chemical nomenclature enhanced
NEWS 11 DEC 14 WPIDS/WPINDEX/WPIX manual codes updated
NEWS 12 DEC 14 GBFULL and FRFULL enhanced with IPC 8 features and functionality
NEWS 13 DEC 18 CA/CAplus pre-1967 chemical substance index entries enhanced with preparation role
NEWS 14 DEC 18 CA/CAplus patent kind codes updated
NEWS 15 DEC 18 MARPAT to CA/CAplus accession number crossover limit increased to 50,000
NEWS 16 DEC 18 MEDLINE updated in preparation for 2007 reload
NEWS 17 DEC 27 CA/CAplus enhanced with more pre-1907 records
NEWS 18 JAN 08 CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS 19 JAN 16 CA/CAplus Company Name Thesaurus enhanced and reloaded
NEWS 20 JAN 16 IPC version 2007.01 thesaurus available on STN
NEWS 21 JAN 16 WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS 22 JAN 22 CA/CAplus updated with revised CAS roles
NEWS 23 JAN 22 CA/CAplus enhanced with patent applications from India
NEWS 24 JAN 29 PHAR reloaded with new search and display fields
NEWS 25 JAN 29 CAS Registry Number crossover limit increased to 300,000 in multiple databases

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8
NEWS X25 X.25 communication option no longer available

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific

research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 09:39:17 ON 08 FEB 2007

=> File HCAPLUS
COST IN U.S. DOLLARS

FULL ESTIMATED COST

| | |
|---------------------|------------------|
| SINCE FILE ENTRY | TOTAL SESSION |
| 0.21 | 0.21 |

FILE 'HCAPLUS' ENTERED AT 09:40:07 ON 08 FEB 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 8 Feb 2007 VOL 146 ISS 7
FILE LAST UPDATED: 7 Feb 2007 (20070207/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s bacillus AND tyr-tRNA
94521 BACILLUS
1 BACILLUSES
12599 BACILLI
13 BACILLIS
103044 BACILLUS
(BACILLUS OR BACILLUSES OR BACILLI OR BACILLIS)
27904 TYR
93 TYRS
27989 TYR
(TYR OR TYRS)
32251 TRNA
6404 TRNAS
33101 TRNA
(TRNA OR TRNAS)
18 TYR-TRNA
(TYR(W) TRNA)
3 BACILLUS AND TYR-TRNA

=> s stearophillus AND tyr-tRNA
0 STEAROPHILLUS
27904 TYR
93 TYRS
27989 TYR
 (TYR OR TYRS)
32251 TRNA

6404 TRNAS
33101 TRNA
(TRNA OR TRNAS)
18 TYR-TRNA
(TYR(W) TRNA)
L2 0 STEAROPHILLUS AND TYR-TRNA

=> s stearothermophilus AND tyr-tRNA
5319 STEAROTHERMOPHILUS
27904 TYR
93 TYRS
27989 TYR
(TYR OR TYRS)
32251 TRNA
6404 TRNAS
33101 TRNA
(TRNA OR TRNAS)
18 TYR-TRNA
(TYR(W) TRNA)

L3 2 STEAROTHERMOPHILUS AND TYR-TRNA

=> s L1 or L3

L4 3 L1 OR L3

=> d ti, so, ibib 1-3 L4

L4 ANSWER 1 OF 3 HCPLUS COPYRIGHT 2007 ACS on STN
TI tRNA determinants for transcription antitermination of the
Bacillus subtilis tyrS gene
SO RNA (2000), 6(8), 1131-1141
CODEN: RNARFU; ISSN: 1355-8382
ACCESSION NUMBER: 2000:568923 HCPLUS
DOCUMENT NUMBER: 134:26005
TITLE: tRNA determinants for transcription antitermination of
the Bacillus subtilis tyrS gene
AUTHOR(S): Grundy, Frank J.; Collins, Jennifer A.; Rollins, Sean
M.; Henkin, Tina M.
CORPORATE SOURCE: Department of Microbiology, The Ohio State University,
Columbus, OH, 43210, USA
SOURCE: RNA (2000), 6(8), 1131-1141
CODEN: RNARFU; ISSN: 1355-8382
PUBLISHER: Cambridge University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 3 HCPLUS COPYRIGHT 2007 ACS on STN
TI Chloride affects the interaction between tyrosyl-tRNA synthetase and tRNA
SO Biochimica et Biophysica Acta, General Subjects (1999), 1472(1-2), 51-61
CODEN: BBGSB3; ISSN: 0304-4165
ACCESSION NUMBER: 1999:750814 HCPLUS
DOCUMENT NUMBER: 132:32579
TITLE: Chloride affects the interaction between tyrosyl-tRNA
synthetase and tRNA
AUTHOR(S): Airas, R. Kalervo
CORPORATE SOURCE: Department of Biochemistry, University of Turku,
Turku, FIN-20014, Finland
SOURCE: Biochimica et Biophysica Acta, General Subjects
(1999), 1472(1-2), 51-61
CODEN: BBGSB3; ISSN: 0304-4165
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal

LANGUAGE: English
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
TI Tyrosyl-tRNA synthetase acts as an asymmetric dimer in charging tRNA. A rationale for half-of-the sites activity
SO Biochemistry (1988), 27(15), 5525-30
CODEN: BICHAW; ISSN: 0006-2960
ACCESSION NUMBER: 1988:450783 HCAPLUS
DOCUMENT NUMBER: 109:50783
TITLE: Tyrosyl-tRNA synthetase acts as an asymmetric dimer in charging tRNA. A rationale for half-of-the sites activity
AUTHOR(S): Ward, Walter H. J.; Fersht, Alan R.
CORPORATE SOURCE: Dep. Chem., Imp. Coll. Sci. Technol., South Kensington/London, SW7 2AY, UK
SOURCE: Biochemistry (1988), 27(15), 5525-30
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

=> d all 1, 3 L4

L4 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:568923 HCAPLUS
DN 134:26005
ED Entered STN: 17 Aug 2000
TI tRNA determinants for transcription antitermination of the *Bacillus subtilis* tyrS gene
AU Grundy, Frank J.; Collins, Jennifer A.; Rollins, Sean M.; Henkin, Tina M.
CS Department of Microbiology, The Ohio State University, Columbus, OH, 43210, USA
SO RNA (2000), 6(8), 1131-1141
CODEN: RNARFU; ISSN: 1355-8382
PB Cambridge University Press
DT Journal
LA English
CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 7, 10
AB Transcriptional regulation of the T box family of aminoacyl-tRNA synthetase and amino acid biosynthesis genes in Gram-pos. bacteria is mediated by a conserved transcription antitermination system, in which readthrough of a termination site in the leader region of the mRNA is directed by a specific interaction with the cognate uncharged tRNA. The specificity of this interaction is determined in part by pairing of the anticodon of the tRNA with a "specifier sequence" in the leader, a codon representing the appropriate amino acid, as well as by pairing of the acceptor end of the tRNA with an unpaired region of the antiterminator. Previous studies have indicated that although these interactions are necessary for antitermination, they are unlikely to be sufficient. In the current study, the effect of multiple mutations in tRNATyr on readthrough of the tyrS leader region terminator, independent of other tRNA functions, was assessed using a system for *in vivo* expression of pools of tRNA variants; this system may be generally useful for *in vivo* expression of RNAs with defined end points. Although alterations in helical regions of tRNATyr that did not perturb base pairing were generally permitted, substitutions affecting conserved features of tRNAs were not. The long variable arm of tRNATyr could be replaced by either a short variable arm or a long insertion of a stable stem-loop structure. These results indicate that the tRNA-leader RNA interaction is highly constrained, and is likely to involve recognition of the overall tertiary structure of the

ST tRNA.
IT tyrosine tRNA Bacillus transcription antitermination tyrS gene
RNA
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(leader; tRNA determinants for transcription antitermination of
Bacillus subtilis tyrS gene)
IT Bacillus subtilis
Transcription termination
Transcriptional regulation
(tRNA determinants for transcription antitermination of
Bacillus subtilis tyrS gene)
IT Gene, microbial
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(tyrS; tRNA determinants for transcription
antitermination of Bacillus subtilis tyrS gene)
IT tRNA
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(tyrosine-specific; tRNA determinants for transcription antitermination
of Bacillus subtilis tyrS gene)
IT 9023-45-4, Tyrosyl-tRNA synthetase
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(tRNA determinants for transcription antitermination of
Bacillus subtilis tyrS gene)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Bedouelle, H; Biochimie 1993, V75, P1099 HCPLUS
- (2) Condon, C; Biochimie 1996, V78, P381 HCPLUS
- (3) Francklyn, C; Nature 1989, V337, P478 HCPLUS
- (4) Garrity, D; Genetics 1994, V137, P627 HCPLUS
- (5) Giege, R; Prog Nucl Acid Res 1993, V45, P129 HCPLUS
- (6) Grundy, F; Cell 1993, V74, P475 HCPLUS
- (7) Grundy, F; J Bacteriol 1990, V172, P6372 HCPLUS
- (8) Grundy, F; J Bacteriol 1994, V176, P2108 HCPLUS
- (9) Grundy, F; J Bacteriol 1994, V176, P4518 HCPLUS
- (10) Grundy, F; J Bacteriol 1997, V179, P2587 HCPLUS
- (11) Grundy, F; J Mol Biol 1994, V235, P798 HCPLUS
- (12) Henkin, T; J Bacteriol 1992, V174, P1299 HCPLUS
- (13) Henkin, T; Mol Gen Genet 1984, V193, P364 HCPLUS
- (14) Henkin, T; Mol Microbiol 1994, V13, P381 HCPLUS
- (15) Kirsebom, L; Nucleic Acids Res 1992, V20, P425 HCPLUS
- (16) Luo, D; J Bacteriol 1997, V179, P2472 HCPLUS
- (17) Marta, P; J Bacteriol 1996, V178, P2150 HCPLUS
- (18) McClain, W; J Mol Biol 1988, V203, P549 HCPLUS
- (19) McClain, W; J Mol Biol 1999, V286, P1025 HCPLUS
- (20) Miller, J; Experiments in molecular genetics 1972
- (21) Puglisi, J; Nucleic Acids Res 1993, V21, P41 HCPLUS
- (22) Putzer, H; Mol Microbiol 1995, V16, P709 HCPLUS
- (23) Ramesh, V; RNA 1997, V3, P1220 HCPLUS
- (24) Sampson, J; Biochemistry 1990, V29, P2523 HCPLUS
- (25) Sprinzl, M; Nucleic Acids Res 1998, V26, P148 HCPLUS
- (26) Stragier, P; Cell 1988, V52, P697 HCPLUS
- (27) Wang, S; Biochemistry 1998, V37, P5549 HCPLUS
- (28) Wu, J; J Bacteriol 1989, V171, P692 HCPLUS

L4 ANSWER 3 OF 3 HCPLUS COPYRIGHT 2007 ACS on STN

AN 1988:450783 HCPLUS

DN 109:50783

ED Entered STN: 19 Aug 1988

TI Tyrosyl-tRNA synthetase acts as an asymmetric dimer in charging tRNA. A rationale for half-of-the sites activity

AU Ward, Walter H. J.; Fersht, Alan R.

CS Dep. Chem., Imp. Coll. Sci. Technol., South Kensington/London, SW7 2AY, UK

SO Biochemistry (1988), 27(15), 5525-30

CODEN: BICAW; ISSN: 0006-2960

DT Journal

LA English

CC 7-4 (Enzymes)

AB Tyrosyl-tRNA synthetase (I) of *Bacillus stearothermophilus* is a classical example of an enzyme with half-of-the-sites activity. It crystallizes as a sym. dimer that is composed of identical subunits, each having a complete active site. In solution, however, it binds tightly, and activates rapidly, only 1 mol of tyrosine (Tyr)/mol dimer. The half-of-the-sites activity was recently shown to result from an inherent asymmetry of the enzyme. Only 1 subunit catalyzes formation of Tyr-AMP, and interchange of activity between subunits is not detectable over a long time scale. Paradoxically, however, the kinetics of tRNA charging are biphasic with respect to Tyr concentration, suggesting that both subunits of the dimer are catalytically active. This paradox was resolved by kinetic anal. of heterodimeric enzymes containing different mutations in each subunit. Biphasic kinetics with unchanged Km values for Tyr were maintained when 1 of the 2 tRNA-binding domains was removed and also when the affinity of the inactive site for Tyr was reduced by 2-58-fold. The biphasic kinetics thus do not result from catalysis at both active sites, but instead appear to result from sequential binding of 2 mols. of Tyr to the same site. A 2nd mol. of Tyr perhaps aids the dissociation of Tyr-tRNA by displacing the tyrosyl moiety from its binding site. A monomer is probably too small to allow both recognition and aminoacylation of a tRNA mol. This could explain the requirement for I to function as an asym. dimer.

ST tyrosyl tRNA synthetase dimer mechanism *Bacillus*

IT Kinetics, enzymic
Michaelis constant
(of tyrosyl-tRNA synthetase, of *Bacillus stearothermophilus*, reaction mechanism in relation to)

IT 9023-45-4, Tyrosyl-tRNA synthetase
RL: BIOL (Biological study)
(dimer, of *Bacillus stearothermophilus*, reaction mechanism of, half-of-the-sites activity in relation to)

IT 60-18-4, Tyrosine, biological studies
RL: BIOL (Biological study)
(tyrosyl-tRNA synthetase response to, mechanism of, enzyme reaction kinetics in relation to)